#27/Appeal Brief 9-15-03 Hayes

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Inventor ..... John T. Moore
Assignee ..... Micron Technology, Inc.
Group Art Unit 2813
Examiner ..... Kielin, Erik J.
Attorney's Docket No. MI22-1443
Title: Capacitor Constructions, DRAM Constructions and Semiconductive Material Assemblies

BRIEF OF APPELLANT

To: MS Appeal Brief - Patents
Assistant Commissioner for Patents
Washington, D.C. 20231

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Appellant appeals from the March 24, 2003 Office Action rejecting claims 76, 81 and 97-98. This brief is submitted in triplicate. A check is included in the amount of $320.00 in payment of the fees required under 37 CFR 1.17(c).

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REAL PARTY IN INTEREST.

The real party in interest of this application is Micron Technology, Inc. as evidenced by the assignment of the pending application to such party recorded at reel 9540, frame 0785-0791 on October 19, 1998, in the Assignment Branch of the Patent and Trademark Office.

II. RELATED APPEALS AND INTERFERENCES.

An Appeal Brief was filed on August 18, 2003 pertaining to Appellant's co-pending application No:09/603,616 . Application No:09/603,616 and the present application each resulted from division of common parent application No:09/175,051, which issued as U.S. Patent No.:6,251,802 on June 26, 2001. The Board's decision in either the present appeal or the appeal filed in co-pending application No:09/603,616 could potentially have bearing on the Board's decision in the other application.

III. STATUS OF THE CLAIMS.

Claims 76, 81 and 97-98 are pending in the application with claims 1-75, 77-80 and 82-96 being previously canceled from the application. Claims 76, 81 and 97-98 stand rejected after Appellant's filing of a Request for Continued Examination, and are the basis for the present appeal.

IV. STATUS OF AMENDMENTS.

No amendments have been filed in the application subsequent to final rejection.

V. SUMMARY OF THE INVENTION.

A concise explanation of the invention defined in the claims that are the subject of the present appeal follows. The invention pertains to dynamic random access memory (DRAM) constructions. Referring to Fig. 5 of appellant's specification, the DRAM constructions include a pair of wordlines 220 and 222 having carbon-containing sidewall spacers 228, 230 which consist essentially of silicon, oxygen and from about 2% to about 20% carbon, by weight (page 20, lines 3-22). Sidewall spacers 228 and 230 which consist essentially of oxygen, carbon and silicon can, in some embodiments, comprise silicon carbide (page 14, lines 5-14). An insulative layer 234 is in contact with at least one of carbon comprising sidewall spacers (page 21, lines 1-7). The DRAM construction also includes a first node, a second node and a third node 214, 216 and 218 proximate the wordlines (page 20, lines 8-12).

Referring to Fig. 9, the DRAM construction of the invention includes a bit line contact 246 in electrical connection with second node 216, and storage nodes 240 of the first and second capacitor constructions 236, 238 in electrical connection with the first and third nodes 214 and 218. Each of the first storage node, the second storage node and bit line contact are in physical contact with one or more of the carbon-containing sidewall spacers (page 21, line 16 through page 22, line 6).

The incorporation of from 2% to about 20% of carbon into sidewall spacers 228, 230 in accordance with the invention allows elimination of a conventional etch stop layer 32 shown in Fig. 1. This allows capacitors 236 and 238 of Fig. 9 to be larger than conventional capacitors 36 and 38 shown in Fig. 1 (page 22, lines 1-6). Additionally, since carbon incorporation into sidewall spacers 228 and 230 of Fig. 9 allows the spacers to be more resistant to etch than the spacers shown in Fig. 1, the carbon comprising sidewall spacers can be formed thinner than prior art spacers while maintaining effective barrier properties against etch-through. Typical prior art spacers such as spacers 28 and 30 shown in Fig. 1 can have a thickness of at least about 900 Å and the carbon comprising sidewall spacers 228 and 230 shown in Fig. 9 can have a thickness of less than or equal to about 500 Å. The thinner sidewall spacers 228 and 230 of the invention can allow additional room for capacitor constructions (page 22, line 7 through page 23, line 2).

An improvement of the sidewall spacers of the invention having greater than 2% carbon is demonstrated by contrasting Figs. 10 and 11. Fig. 10 shows a silicon dioxide sidewall spacer with less than 2% carbon and Fig. 11 shows sidewall spacers in accordance with the invention. Sidewall etching is apparent in the prior art construction shown in Fig. 10 while the construction of the invention shown in Fig. 11 shows no apparent etching (page 23, lines 3-16).

VI. ISSUES.

The issues presented for review are concisely stated as follows.

Issue 1: Are claims 76, 81 and 97-98 unpatentable within the meaning of 35 U.S.C. § 103 over U.S. Patent No. 5,935,873 to Spuler (hereinafter Spuler) in view of U.S. Patent

No. 6,136,700 to McAnally (hereinafter McAnally), and in further view of applicant's admitted prior art (hereinafter AAPA)?

VII. GROUPING OF CLAIMS.

With respect to the § 103 rejection of claims 76, 81 and 97-98, claims 76 and 98 stand or fall as one group. Dependent claims 81 stands or falls as a group. Dependent claim 97 stands or falls as a group.

VIII. ARGUMENT.

Claims 76, 81 And 97-98 Are Patentable Over The Cited References Within The Meaning Of 35 U.S.C. § 103.

1. Summary of the Office's rejection.

Claim 76 sets forth a DRAM construction that includes, among other things, carbon-containing sidewall spacers that extend along sidewall edges along a pair of wordlines disposed over a substrate. The carbon-containing sidewall spacers consist essentially of silicon, oxygen and from about 2% to about 20% carbon, by weight. The DRAM construction of claim 76 has an insulative layer in contact with at least one of the carbon-comprising sidewall spacers. A first, a second and a third node are disposed proximate the wordlines. A first capacitor construction having a first storage node is in electrical connection with the first node. A second capacitor construction having a second storage

node is in electrical connection with the third node. A bit line contact is in electrical connection with the second node. The first storage node, the second storage node and the bit line contact are each in physical contact with one or more carbon-containing sidewall spacers.

The remaining claims 81 and 97-98 depend from claim 76. Dependent claims 81 and 97 further limit the subject matter of claim 76 with respect to sidewall spacer material and thickness, respectively. Dependent claim 98 further limits the subject matter claimed in independent claim 76 with respect to insulative layer composition.

The Office alleges in the March 24, 2003 Action that all the recited features of claims 76, 81 and 97-98 are taught or suggested by applicant's admitted prior art (AAPA) in view of McAnally and Spuler. The Action indicates that AAPA is relied upon as disclosing DRAM features including 3 nodes in gated electrical connection with a pair of wordlines having sidewall spacers, capacitor constructions directly against an insulating layer, and a bit line contact (present action pages 2-3). The Office acknowledges at page 3, paragraph 2 of the present action that AAPA is silent as to sidewall spacer material consisting essentially of silicon, oxygen and carbon and the recited insulating layer being in contact with at least one carbon-containing sidewall spacer.

The Office indicates reliance on McAnally as teaching formation of sidewall spacers 108 and etch stop 110, either or both of which can comprise carbon, silicon and oxygen and can comprise silicon carbide. McAnally is further relied on as showing omission of an etch stop layer over wordlines. The Office takes the position that it would have been obvious to utilize the sidewall spacer of McAnally in place of the sidewall spacer material of AAPA because McAnally indicates utilization of the disclosed sidewall spacers to protect a gate structure from being damaged during etching and that it would be obvious to add

insulative material directly contacting one of the sidewall spacers since McAnally teaches omission of the etch stop layer to reduce the number of etch steps.

The Office alleges that the only difference between the invention claimed and the combination of AAPA and McAnally is that the combination of these two references does not indicate an amount of carbon in sidewall spacer to be from about 2% to about 20% carbon (page 4 of the Action). The Office indicates that because Spuler teaches an etch resistant material having 1-50% carbon to provide selectivity relative to a non-carbon dielectric it would be obvious to one of ordinary skill to use the carbon content taught by Spuler in the sidewall spacers of AAPA in view of McAnally since both McAnally and Spuler teach carbon-containing etch stop materials. Specifically, the Action states at page 4 that "one of ordinary skill would be especially motivated to apply the teachings of Spuler since the carbon-containing materials are being used for exactly the same purpose in both McAnally and Spuler".

The Office further alleges that although AAPA and McAnally do not disclose sidewall spacers having a thickness of less than 500 Å, McAnally indicates maximizing a contact area and allowing thinner sidewall spacers. The Office indicates that since McAnally suggests minimizing width of sidewall spacer it would be obvious to choose a sidewall spacer with less than 500 Å to increase the contact area. The Office further alleges that selection of a sidewall spacer thickness is a result of routine experimentation which is *prima facie* obvious. The Office further relies on Spuler in support of the obviousness of spacer thickness because Spuler discloses an etch stop layer along a sidewall as being 200 Å to 300 Å.

2. The r jection of claims 76, 81 and 97-98 should be reversed because a *prima facie* case of obviousness has not been established.

a) A *prima facie* case of obviousness has not been established.

As set forth by the Office in MPEP § 2143, a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. In order to establish a *prima facie* case of obviousness, the burden of which is placed upon the Office (MPEP § 2142), each of these three factors must be shown. Appellant asserts that each of claims 76, 81 and 97-98 are allowable over the cited combinations of Spuler, AAPA and McAnally for at least the reasons that the references, individually or as combined, fail to disclose or suggest each and every limitation in any of those claims and fail to provide a basis for a reasonable expectation of success of achieving the invention claimed when the claims are properly considered as a whole. Accordingly, a *prima facie* case of obviousness has not been established.

b) All of the claimed limitations are not taught or suggested by the prior art: Brief description of the primary cited references and explanation of their deficiencies in suggesting the claimed inventions.

i) Spuler.

Spuler discloses incorporation of carbon into a silicon-nitride layer 22 (col. 2, ll. 29-55) and an oxide layer over the carbonized nitride layer (col. 3, ll. 23-25). Spuler specifies that an amount of carbon which can be incorporated in to form the carbonized nitride layer can range from about 1 to about 50%. The carbonized nitride layer is utilized during formation of a self aligned contact to provide a desired selectivity of oxide to nitride etch rate during formation of the contact opening. Spuler indicates that the carbonized nitride layer can be formed either by adding carbon during the formation of the nitride layer utilizing a carbon-containing gas, with exemplary gases indicated as methane or "other hydrocarbon", or by implant subsequent to depositing the silicon nitride (col. 2, l. 56 – col. 3, l. 9)

The carbonized nitride etch stop layer disclosed in Spuler is retained in the final contact structure along sidewalls and over gates as well as along the base of the contact opening as shown in Fig. 4. This carbonized nitride layer is indicated as being specifically retained to protect from short circuiting upon application of current (col. 3, ll. 66 through col. 4, ll. 5). The disclosure of a single contact structure of Spuler does not disclose or suggest the claim 76 recited first storage node, second storage node and bit line contact each being in physical contact with one or more carbon-containing sidewall spacers. Further, Spuler does not disclose an etch stop layer comprising oxygen and, since the purpose of the Spuler invention is to provide a selectivity of an overlying oxide relative to a nitride layer by incorporating carbon into the nitride layer, Spuler does not suggest incorporation of carbon into a material other than a nitride material.

The Spuler disclosure of incorporating carbon into a silicon nitride layer does not disclose or suggest any method for achieving the claim 76 recited sidewall spacers

consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, by weight. The Spuler disclosure of carbonized nitride layer thickness which can range from 0.05 to about 0.02 microns which is retained in the final structure to cover wordlines and line an opening, does not suggest achieving the claim 76 recited construction utilizing carbon-containing sidewall spacers consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, by weight.

ii) McAnally.

McAnally discloses a single self-aligned contact 122 between wordlines having sidewall spaces 108 (Fig. 3 and col. 6, ll. 25-33). McAnally discloses that carbon can be incorporated into sidewall spacers 108 by implantation subsequent to deposition to form a resulting carbon-rich oxide or carbon-rich nitride with the term "carbon-rich" defined as possessing "some carbon" (col. 5, ll. 16-18; col. 6, ll. 34-37). The disclosure by McAnally of materials comprising "some carbon" does not disclose or suggest the claim 76 recited sidewall spacers consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, by weight. Further, the disclosure of implanting "some carbon" does not suggest methods for achieving the claim 76 recited sidewall spacer consisting essentially of silicon, oxygen, and from about 2% to about 20% carbon, by weight. Additionally, the McAnally disclosure of a single contact structure does not disclose or suggest each of a bit line contact, a second storage node and a first storage being in physical contact with one or more of the carbon-containing sidewall spacers.

iii) Applicant's Admitted Prior Art.

The portion of appellant's specification indicated to be relied on by the Office as applicant's admitted prior art (AAPA) corresponds to the Background section,

corresponding to pages 1-8 and Figs. 1-4. In this portion of appellant's specification, appellant sets forth a prior art problem which can occur as a result of over-etching of an etch stop layer 32 as shown in Fig. 4. The background section describes conventional selective etching methods utilized in formation of the DRAM construction shown in Fig. 1. The DRAM construction of Fig. 1 includes a pair of wordlines 20 and 22 which have opposing sidewall edges and sidewall spacers 28 and 30 which extend along the sidewall edges (page 4, lines 3-4). An etch stop layer 32 which can comprise silicon-nitride extends over wordlines 20 and 22. An insulative layer 34 is disposed over wordlines 20 and 22.

The construction of Fig. 1 additionally contains capacitor constructions 36 and 38 which extend through the insulative layer 34 to contact node locations 14 and 18. A bit line contact 46 also extends through insulative layer 34 and contacts node location 16 and is in gated electrical connection with each of capacitor constructions 36 and 38 through the respective wordlines (page 4, line 13 through page 5, line 8). Although capacitor constructions 36 and 38 are disclosed as having storage nodes, the background section does not disclose or suggest a first storage node in contact with at least one carbon comprising sidewall spacer. Nor does the background section disclose or suggest a second storage node in contact with a carbon comprising sidewall spacer. Additionally, the background section does not disclose or suggest a bit line contact in physical contact with a carbon-containing sidewall spacer. Additionally, AAPA does not disclose or suggest sidewall spacers comprising carbon. Nor does AAPA suggest a sidewall material consisting essentially of silicon, oxygen and from about 2% to about 20% carbon. Finally, AAPA does not disclose or suggest an insulative layer in contact with at least one carbon comprising sidewall spacer.

iv) Spuler in combination with AAPA and McAnally.

In combination, the carbonized nitride layer disclosed by Spuler and the conventional sidewall spacers discussed in AAPA do not suggest the claim 76 recited carbon-containing sidewall spacers consisting essentially of silicon, oxygen and carbon. Further, incorporation of from 1% to about 50% carbon into a nitride layer with the purpose of affecting etch rate selectivity of oxide relative to nitride material as disclosed in Spuler, does not suggest any appropriate range of carbon incorporation for sidewall spacers consisting essentially of silicon, oxygen and carbon. Additionally, the Spuler disclosure of incorporating carbon into a nitride layer does not provide a basis for a reasonable expectation of success for incorporating the recited 2% to about 20% carbon to form sidewall spacers consisting essentially of silicon, oxygen and carbon. Since AAPA does not disclose or suggest carbon, comprising sidewall spacers, such does not contribute toward suggesting these features which Spuler fails to provide.

As combined with Spuler and AAPA, the incorporation of "some carbon" utilizing implantation subsequent to deposition of a layer as disclosed in McAnally does not contribute toward suggesting the claim 76 recited sidewall spacer consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, by weight. Nor does the McAnally disclosure contribute toward providing a basis for a reasonable expectation of success for achieving the claim 76 recited spacers consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, by weight. Further, as combined, these references fail to provide a basis for a reasonable expectation that the recited spacers consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, will successfully achieve a functional DRAM construction having the combination of elements recited in claim 76.

In addition to the above, the single contact structure between wordlines having a carbonized silicon nitride etch stop layer over wordline sidewalls as disclosed in Spuler, and the single contact structure between wordlines having sidewall spacers containing "some carbon" as disclosed in McAnally, do not contribute toward suggesting the recited first storage node, second storage node and bit line contact each being in physical contact with one or more sidewall spacers consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, which AAPA fails to suggest.

As set forth above, the cited combinations of Spuler, AAPA and McAnally fail to disclose all of the claim limitations recited in independent claim 76. Further, when claim 76 is properly considered as a whole in accordance with MPEP § 2141, the cited combination not only fails to suggest each and every limitation, but additionally fails to suggest the recited combination of construction features.

c) A basis for a reasonable expectation of success has not been established.

A *prima facie* case of obviousness requires the Office to establish that there is a basis for a reasonable expectation of success, the basis being provided by the prior art, not in applicant's disclosure. As discussed above, the cited combinations of references do not disclose or suggest the claim 76 recited sidewall spacers consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, or the claim 76 recited first storage node, second storage node and bit line contact each being in physical contact with one or more of the carbon-containing sidewall spacers. The only suggestion of providing the range of from about 2% to about 20% carbon in etch stop layers containing silicon and oxygen, is provided in applicant's specification. The Office has not set forth any basis within the prior art which could possibly provide a reasonable expectation that the recited sidewalls

consisting essentially of silicon, oxygen and from about 2% to about 20% carbon could successfully achieve the etch selectivity to produce the claimed DRAM construction. In additional to lacking a basis for a reasonable expectation of success regarding the etch selectivity, no basis has been presented by the Office for a reasonable expectation of achieving the recited incorporated range of carbon to produce sidewall spacers consisting essentially of silicon, oxygen and carbon. Accordingly, the requirement of establishing a basis for a reasonable expectation of success based on the prior art has not been met.

d) Claim 81 is separately patentable.

Dependent claim 81 recites the limitation where the carbon-containing sidewall spacers of claim 76 comprise silicon carbide. This limitation limits the spacers which consist essentially of silicon, oxygen and from about 2% to about 20% carbon to having silicon carbide therein. At page 3 of the present action, the Office indicates the position that McAnally teaches the silicon carbide limitation recited in claim 81. Referring to McAnally at column 5, lines 9-18, appellant notes that McAnally indicates that materials which used for stopping layer 110 can be carbon-rich nitride, silicon-rich oxide, organic spin-on-glass, silicon carbide, silicon-rich oxide, nitrided oxide, and organic polymers. At column 5, lines 19-25, McAnally indicates that silicon carbide for use within a stopping layer can affect the mechanical portion of an etch. This disclosure does not suggest the recited sidewall material consisting essentially of silicon, oxygen and from 2% to 20% carbon, and comprising silicon carbide. Additionally, McAnally does not teach or suggest any method for achieving the claim 81 recited silicon carbide comprising sidewall spacers or provide a reasonable expectation of successfully achieving the spacers.

Neither AAPA nor Spuler disclose or suggest silicon carbide comprising materials.

As combined with McAnally, neither AAPA nor Spuler contributes toward suggesting the claim 81 recited sidewall spacers which comprise silicon carbide and which consist essentially of silicon, oxygen and carbon. Accordingly, dependent claim 81 is separately patentable.

e) Claim 97 is separately patentable.

Dependent claim 97 limits the sidewall spacers of claim 76 which consist essentially of silicon, oxygen and from about 2% to about 20% carbon, to a thickness of less than about 500 Å. The Examiner indicates at page 6 of the present action that it would be obvious to choose a sidewall spacer thickness of less than 500 Å because Spuler discloses an etch stop layer along a sidewall having a thickness of 200 Å to 300 Å. Appellant notes that the etch stop layer of Spuler is a carbonized silicon nitride. Nothing in the Spuler disclosure indicates or suggests an appropriate thickness for a material other than carbonized silicon nitride. Accordingly, Spuler does not suggest the claim 97 spacers consisting essentially of silicon, oxygen and carbon having a thickness of less than 500 Å. Further, Spuler does not provide a reasonable expectation to believe that the recited thickness could be effective for the intended purpose.

The Office further indicates at pages 5-6 of the Action that selection of sidewall spacer thickness is *prima facie* obvious as determining optimum process conditions by routine experimentation. The Office relies on McAnally to support this statement since McAnally indicates carbon-containing sidewall spacers and etch stops are more etch selective "which implicitly indicates that said materials can perform the same etch prevention function with less of the material" citing MPEP § 2144.05. Appellant notes, however, that McAnally does not disclose any sidewall thickness ranges. Additionally, as

discussed above, McAnally does not disclose or suggest sidewall spacers consisting essentially of carbon, oxygen and 2% to 20% carbon, by weight. Accordingly, McAnally does not suggest any range of thickness for a sidewall spacer consisting essentially of silicon, oxygen and from 2% to about 20% carbon, by weight. Since no range of thickness is suggested by McAnally for a sidewall having 2% to 20% carbon, selection of the recited sidewall spacer thickness of less than 500 Å could not be considered to be a determination by routine experimentation with a single variable, as proposed by the Office. Further, McAnally does not contribute toward providing a basis for a reasonable expectation that the recited thickness of 500 Å or less for sidewall spacers of the recited composition could successfully achieve the intended purpose.

Finally, the Office indicates that the dimension of the sidewall is merely a matter of routine optimization because "as devices shrink so do the dimensions of the features of each device". Appellant asserts that although the desirability of a device having a smaller dimension may provide motivation for a thinner sidewall spacer, motivation alone is an improper basis for an obviousness rejection. Even if smaller devices size were sufficient motivation for spacer thickness, this motivation does not provide a reasonable expectation of achieving the recited sidewall spacer consisting essentially of silicon, oxygen and 2% to 20% carbon, having a thickness of 500 Å or less or providing a reasonable expectation that the recited spacer would be effective for its intended purpose. Accordingly, an obviousness rejection based solely on desirability of smaller devices appears to apply an improper "obvious to try" standard.

Independent claim 97 is allowable over the cited combination of references for at least the reason that it depends from claim 76 and is additionally separately patentable since the cited combination of references do not disclose or suggest the recited sidewall

spacers consisting essentially of silicon, oxygen and from 2% to about 20% carbon having a thickness of less than 500 Å. Nor has a basis been shown for a reasonable expectation that the recited spacer thickness and composition can effectively achieve the intended purpose. Accordingly, claim 97 is separately patentable.

f) For the reasons set forth above, the § 103 rejection of claims 76, 81, and 97-98 should be reversed.

As set forth above, the cited combination of Spuler, AAPA, and McAnally fails to disclose or suggest each and every limitation recited in independent claim 76. Additionally, a prior art basis for a reasonable expectation of achieving the invention as claimed in independent claim 76 has not been established. Accordingly, the § 103 rejection of independent claim 76 should be reversed based on lack of establishment of a *prima facie* case.

The § 103 rejection of dependent claims 81 should be reversed for at least the reason that it depends from independent claim 76 for which a *prima facie* case of obviousness has not been established.

As further indicated above, the cited combination of Spuler, AAPA, and McAnally fails to disclose or suggest the additional limitations recited in dependent claims 81 and 97. Nor has a basis for a reasonable expectation of success been established relative to the additional limitations of either of claims 81 and 97. Accordingly, claims 81 and 97 are each separately patentable and the § 103 rejection of each should be reversed.

IX. CONCLUSION.

In view of the foregoing, reversal of the final rejections of claims 76, 81 and 97-98 is respectfully requested. Allowance of such claims is also requested.

Respectfully submitted,

Dated: August 25, 2003 By: Jennifer J. Taylor
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X. APPENDIX.

Claims 76, 81 and 97-98 which stand rejected and are the basis of the present appeal are presented below.

76. A DRAM construction, comprising:

a pair of wordlines over a substrate, the wordlines comprising sidewall edges;

carbon-containing sidewall spacers extending along the sidewall edges of the wordlines, the carbon-containing sidewall spacers consisting essentially of silicon, oxygen and from about 2% to about 20% carbon, by weight;

three nodes proximate the wordlines, the three nodes comprising a first node, second node and third node, the second node being in gated electrical connection with the first node through one of the wordlines and being in gated electrical connection with the third node through the other of the wordlines;

an insulative layer in contact with at least one of the carbon-comprising sidewall spacers;

a first capacitor construction in electrical connection with the first node, the first capacitor construction comprising a first storage node;

a second capacitor construction in electrical connection with the third node, the second capacitor construction comprising a second storage node; and

a bit line contact in electrical connection with the second node, each of the first storage node, second storage node and bit line contact being in physical contact with one or more of the carbon-containing sidewall spacers.

81. The DRAM construction of claim 76 wherein the carbon-containing sidewall spacers comprise silicon carbide.

97. The DRAM construction of claim 76 wherein the carbon-containing sidewall spacers have a thickness of less than about 500 Å.

98. The DRAM construction of claim 76 wherein the insulative layer comprises borophophosilicate glass.